

Appl. No.: 10/060,767

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IN THE CLAIMS:

Claims 1-29: (canceled)

30. (Previously presented) A method for processing mail, comprising:

- providing a mail piece requiring marking;
- identifying an address to which said mail piece is to be delivered;
- encoding address information for said mail piece;
- affixing a layer of material onto said mail piece, said layer being transparent or substantially transparent in a non-stimulated state, said layer reversibly becoming non-transparent upon the application of a stimulus; and
- affixing a marking upon said layer, wherein said marking carries indicia comprising the encoded address information.

31. (Currently amended) A method for processing mail, comprising:

- providing a mail piece for sorting, the mail piece having been marked with a transparent or substantially transparent layer and indicia recording information related to the delivery of the mail piece said indicia recording information is carried on a marking affixed upon said layer;
- subjecting said layer and indicia to appropriate stimulus to create optical changes in the appearance of at least said layer;
- detecting information recorded in said indicia;
- interpreting information recorded in said indicia; and
- providing said information to a mail sorting system.

Claims 32-39: (canceled).

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40. (Previously presented) The method as in claim 30, wherein said layer comprises a polymer containing material, wherein said polymer containing material is transparent or substantially transparent below a lower critical solution temperature, said polymer containing material reversibly becoming non-transparent above the lower critical solution temperature.
41. (Previously presented) The method as in claim 30, wherein said layer comprises a photochromic material.
42. (Previously presented) The method as in claim 30, wherein said layer comprises a thermochromic material.
43. (Previously presented) The method as in claim 30, wherein said layer comprises a material that is optically contrasting to the indicia at one or more specific wavelengths.
44. (Previously presented) The method as in claim 30, wherein said layer comprises a material that is doped with a substance to make said doped material optically contrasting upon an application of a thermal stimulus.
45. (Previously presented) The method as in claim 30, wherein said layer is substantially transparent in the non-stimulated state and becomes substantially non-transparent upon an application of said stimulus.

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46. (Currently amended) ~~The method as in claim 30,~~ A method for processing mail,
comprising:

providing a mail piece requiring marking;

identifying an address to which said mail piece is to be delivered;

encoding address information for said mail piece;

affixing a layer of material onto said mail piece, said layer being
transparent or substantially transparent in a non-stimulated state, said layer
reversibly becoming non-transparent upon the application of a stimulus; and

affixing a marking upon said layer, wherein said marking carries indicia
comprising the encoded address information, and

wherein said layer comprises a Lower Critical Solution Binary Polymer Blends and
Solutions (LCSPBS) material in at least one of a liquid, a solid solution or a micro
encapsulated form.

47. (Previously presented) The method as in claim 30, wherein said layer comprises
hydroxypropyl cellulose and water in a micro encapsulated form.

48. (Previously presented) The method as in claim 30, wherein said layer comprises
hydroxypropyl cellulose and water with a curable polymer constituent material to
create a gel or a solid.

49. (Currently amended) ~~The method as in claim 30,~~ A method for processing mail,
comprising:

providing a mail piece requiring marking;

identifying an address to which said mail piece is to be delivered;

encoding address information for said mail piece;

affixing a layer of material onto said mail piece, said layer being

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transparent or substantially transparent in a non-stimulated state, said layer reversibly becoming non-transparent upon the application of a stimulus; and
affixing a marking upon said layer, wherein said marking carries indicia comprising the encoded address information, and

wherein said layer comprises at least one color former and at least one Lewis acid introduced into a polymer containing material, wherein said polymer containing material is transparent or substantially transparent below a lower critical solution temperature, said polymer containing material reversibly becoming substantially non-transparent above the lower critical solution temperature.

50. (Previously presented) The method as in claim 30, wherein said layer comprises an optical phase change material that is responsive to a change in ambient temperature.

51. (Previously presented) The method as in claim 30, wherein said layer is affixed to said mail piece through a method comprising at least one of painting, spraying, rolling and use of an intermediate transfer mechanism.

52. (Previously presented) The method as in claim 30, wherein said indicia comprises a fluorescent ink.

53. (Previously presented) The method as in claim 30, wherein said indicia comprises a visible ink.

54. (Previously presented) The method as in claim 30, wherein said indicia comprises at least one optically readable data form.

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55. (Previously presented) The method as in claim 30, wherein said indicia are transparent or substantially transparent in a non-stimulated state, and reversibly shift to an optically readable state upon the application of said stimulus.
56. (Previously presented) The method as in claim 55, wherein said indicia comprise a photochromic material
57. (Previously presented) The method as in claim 55, wherein said indicia comprise a thermochromic material.
58. (Previously presented) The method as in claim 55, wherein said indicia comprise a mixture of mutually compatible polymers, said polymer mixture being transparent or substantially transparent below a lower critical solution temperature and reversibly becoming non-transparent above the lower critical solution temperature.
59. (Previously presented) The method as in claim 55, wherein said indicia comprise phase change materials combined with amplifying media that result in laser-like action upon stimulation with laser light.
60. (Previously presented) The method as in claim 55, wherein said indicia comprise material that is optically contrasting at one or more specific wavelengths.

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61. (Previously presented) The method as in claim 55, wherein said indicia comprise at least one color former and at least one Lewis acid introduced into a polymer containing material, wherein said polymer containing material is transparent or substantially transparent below a lower critical solution temperature, said polymer containing material reversibly becoming non-transparent above the lower critical solution temperature.
62. (Previously presented) The method as in claim 30, wherein said indicia are applied over said layer by a method comprising at least one of impact printing, ink jet printing, painting, spraying, rolling and through the use of an intermediate transfer mechanism.
63. (Previously presented) The method as in claim 30, wherein said stimulus comprises at least one of IR light, visible light, UV light, microwave energy, electrical energy, magnetic fields, acoustic energy and thermal energy.
64. (Previously presented) The method as in claim 30, wherein said stimulus comprise an increase of temperature that exceeds a lower critical solution temperature associated with said layer.
65. (Previously presented) The method as in claim 30, wherein said indicia comprise a sort code.

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66. (Currently amended) ~~The method as in claim 30;~~ A method for processing mail,
comprising:

providing a mail piece requiring marking;

identifying an address to which said mail piece is to be delivered;

encoding address information for said mail piece;

affixing a layer of material onto said mail piece, said layer being
transparent or substantially transparent in a non-stimulated state, said layer
reversibly becoming non-transparent upon the application of a stimulus; and

affixing a marking upon said layer, wherein said marking carries indicia
comprising the encoded address information, and

wherein at least one application of said layer and marking upon said layer is disposed
upon another at least one application of said layer and marking upon said layer,
and wherein indicia of each application of said marking is optically readable
under a different set of environmental conditions.

67. (Previously presented) The method as in claim 66, wherein said indicia of each said at
least one application of said layer and marking upon said layer are transparent or
substantially transparent in a non-stimulated state and sequentially become
optically readable upon a change in environmental conditions.

68. (Previously presented) The method as in claim 66, wherein said indicia of at least one
application of said layer and marking upon said layer comprises a code used when
sorting the mail piece.

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69. (Previously presented) A method for processing mail, the method comprising:
- providing a mail piece requiring marking;
 - identifying address information for said mail piece;
 - encoding said address information;
 - affixing a first layer disposed over the mail piece;
 - affixing a second layer disposed over said first layer, said first and said second layer being substantially transparent in a non-stimulated state, said first layer becoming optically contrasting with respect to the mail piece in response to a first stimulus, said second layer becoming optically contrasting with respect to said first layer in response to a second stimulus; and
 - disposing first indicia on said first layer and second indicia on said second layer, said first and second indicia comprising the address information.
70. (Previously presented) The method as in Claim 69, where said first stimulus comprises a first temperature, and where said second stimulus comprises a second temperature that is greater than said first temperature.
71. (Previously presented) The method as in Claim 69, where said first and second indicia are transparent or substantially transparent in a non-stimulated state and become optically readable in response to a respective stimulus.
72. (Previously presented) The method as in Claim 70, where only said first indicia is readable when exposed to said first temperature, and where said second indicia is readable when exposed to said second temperature.